Sutureless Repair of Cervical Lacerations

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THE object of this paper is to present a method by which cervical lacerations may be repaired without the scalpel or suture, and the patient spared loss of time from the performance of normal duties during convalescence.

This, as a matter of course, means that cases formerly hospitalized for operation, are converted into ambulant cases from the beginning, and that the procedure is wholly within the scope of an out-patient or office technic.

No surgeon or gynecologist of today but will subscribe to both the actual discomforts and the potential dangers of cervical lacerations, with their sequellae of endocervical infection, purulent discharges and erosions, and possible malignant disease as a final stage.

In a surprising percentage, however, these conditions are neglected or treated in a haphazard fashion, because of a number of reasons, among which are the expense of competent attention, a dread of or an inability to pay for hospitalization, a fear of anesthesia, or plain dumbly enduring ignorance on the part of the victim, aided and abetted by the freely given but rarely effective advice of women "friends," which she has admittedly "tried."

If, then, it be possible to gain relief from such a pathologic impasse, without hospital expense, without an anesthetic, without a period of post-operative confinement in bed, one can hardly fail to agree that such a method constitutes a considerable therapeutic advance.

Let, us, therefore, first analyze the condition itself, and then describe the means by which an ambulant healing of such tears of the uterine cervix may be brought about.

Pathology

Primarily the cervix is lacerated by trauma —evulsed, as it were, by a stretching, crushing, devitalizing force. Such tissue insult means tissue reaction, unless actual tissue death result. In the subsequent effort which nature makes to close the gap in the traumatized tissues, a fibrotic reaction follows. In the end we see a furrow more or less deep, on one or both sides of the external os, with walls poorly epithelized and a line of scar tissue marking the bottom limits of the sulcus. And this line of fibrotic tissue, at the bottom angle of the laceration, is the crux of the entire problem of repair. The scar tissue is actually nothing more than a *pebble caught in the angle of a hinge, by which the leaves of the hinge are held apart beyond any possibility of closing!*

And so we have an open door, of course. The gap of the laceration means an undue opening of the external os, a break in the continuity of the cervical canal or, in other words, a damage to the protective mechanism existent in these structures under normal conditions. It is a gateway set wide to infectious invasion, which after a time occurs. Following such invasion the cervical canal becomes a culture tube for bacterial growth, and the resulting discharges are followed by cervical erosion and an infection of cervical crypts, with a sprouting of abnormal granulation tissue, bathed in the pathologic secretions from above.

Pathogenic bacteria rapidly penetrate the mucosa of the female genital tract and establish themselves in the sub-mucosa; and any method which does not destroy them in situ, will fail of a curative effect.

Our problem then is twofold: to eliminate the infecting agent, and to remove the fibrotic scar at the bottom of the laceration, which literally holds the walls of the tear apart. For unless these walls can be freshened and brought into contact, closing of the laceration cannot result. This is the classic and accepted method: The scar is cut out, the walls are freshened and *sutured* together. I gain the result without either suture or knife.

Technic

With the patient lying upon the table, a speculum is inserted and the vagina mopped out with tincture of green soap or Mercurochrome or Merthiolate. The cervical canal is then electrically coagulated to a depth sufficient to insure sterilization of infection, as judged by the apparent condition. I employ a Cherry electrode, inserting the point to just short of the internal os and with the current controlled by a foot switch, effecting the coagulation in a number of short contacts, to avoid any marked degree of discomfort from too-long-continued heat.

With the canal cared for in this manner, the laceration is next attacked. With either a coagulating electrode attached to the same high-frequency surgical unit employed to activate the intracervical electrode, and an indifferent plate under the patient's buttocks (or, if preferred, with an endotherm knife, activated by a suitable unit), the scar at the bottom of the laceration is destroyed in situ. This takes the "pebble" out of the "hinge" and leaves nothing more to be done beyond freshening the lateral walls. This freshening is done by a light coagulation, with a high-frequency electrode, until all pathologic scar tissue and all abnormal granulations are de-

stroyed, thereby insuring a complete surface desquamation of both walls of the laceration. When this occurs, two actively healing surfaces are left, and since the fibrous block is gone from the bottom of the sulcus, the side walls close in and adhere, and the line of fusion epithelizes in normal fashion.

Any cystic points appearing on the cervix are punctured with a coagulating tip and destroyed. Patients are instructed to go about their normal duties, use a mild detergent douche once daily after the first twenty-four hours, and report for examination in three weeks.

Full results can be expected in the average case in from four to six weeks, depending upon the initial condition. During the first few days there will be an increased discharge, caused by the breaking down of the tissues destroyed during the operation, and the patient should be warned that this will happen. Slight abdominal symptoms may exist for the first few hours, but very seldom will they be sufficient to require any attention or even keep the patient off her feet.

Results are surprisingly good—so good, indeed, that it is nothing unusual to have a multipara, with reasonably deep lacerations, report after a few weeks with a cervix approximating a nulliparous type. In others the result resembles that obtained by the classic method.

During the past three months a series of these operations has been performed at the Salt Lake County General Hospital, as a part of the out-patient gynecologic service. In these cases the cervical laceration was either a part of the condition bringing the patient for treatment, or the sole complaint from which relief was sought.

A partial list of cases in which the cervical condition was the chief complaint, is appended.

Case Reports

Case No. 26293: Aged 27; two children; first delivery by forceps; showed endocervicitis and lacerations. Aug. 8, 1933, above technic employed. Sept. 9, condition improved but not entirely satisfactory. Sept 26, technic repeated very lightly. Oct. 10, discharged as cured.

Case No. 24957: Aged 53; widow; 15 children; bilateral lacerations, endocervicitis, erosions. Aug. 22, 1933, above technic to cervix and lacerations. Sept. 12, complete healing. Patient says she is "feeling good." Discharged.

Case No. 30650: Age 37, married; 5 children; endocervicitis, erosions, bilateral lacerations. Cervical amputation had been advised. Aug. 8, 1933, above technic to all lesions of the cervix. Oct. 3, apparently well; no discharge; lacerations closed.

Case No. 16073: Age 25; married; 6 children; bilateral lacerations; uterus large and boggy (subinvoluted); patient exceedingly neurotic. Aug. 8, 1933, above technic to cervix and lacerations. Sept. 19, complains of much abdominal pain; cervix still discharging; lacerations not as yet healed; hospitalization advised, but refused. Patient has not returned.

Case No. 36286: Age 30; married; 1 child; cervix large and eroded; bilateral lacerations. Aug. 8, 1933, above technic used. Sept. 19, well.

Case No. 30234: Aged 40; married; 3 children; unilateral laceration; endocervicitis. Aug. 29, 1933, above technic used. Sept. 19, progress good. Oct. 10, not entirely healed, but patient greatly improved.

Case No. 18374: Age 24; married; 3 para; Wassermann test, 4 plus, 1-19-32; negative 9-30-33. Dec. 19, 1932, electro-cauterization of the cervix for erosions. Dec. 30, cervix improved. May 8, 1933, cervix enlarged and indurated. May 22, cervical smear shows many diplococci. July 3, cervical smear shows many pus cells. Aug. 28, above technic to bilateral lacerations and endocervix. Sept. 22, great improvement; lacerations healing.

Case No. 35634: Aged 28; married; 3 para; endocervicitis, erosions and lacerations; adnexa negative. Aug. 29, 1933, above technic applied to lesions. Sept. 26, well.

Case No. 24408: Aged 35; married; 5 para; endocervicitis; badly lacerated cervix. Aug. 8, 1933, above technic used. Oct. 3, complete healing of lacerations; os resembles virgin condition.

Case No. 17988: Aged 32; married; 7 para; bilateral lacerations; endocervicitis; erosions; infected crypts. Oct. 10, 1933, above technic used. Final results not as yet developed, but progress apparently good.

Case No. 24704: Aged 41; divorced; 2 para; bilateral lacerations; endocervicitis and erosions. Sept. 19, 1933, above technic used. Oct. 3, healing well advanced; promise of a satisfactory result.

Medical Arts Bldg.

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